

Minnesota Plant Press

The Minnesota Native Plant Society Newsletter

Volume 24 Number 1

Fall 2004

Monthly meetings

Minnesota Valley National Wildlife Refuge
Visitor Center, 3815 East 80th St.
Bloomington, MN 55425-1600
952-854-5900

6:30 p.m. — Building east door opens
6:30 p.m. — Refreshments,
information, Room A
7 – 9 p.m. — Program, society business
7:30 p.m. — Building door is locked
9:00 p.m. — Building closes

Programs

The MNPS meets the first Thursday in October, November, December, February, March, April, May, and June. Check the Web site for more program information.

Nov. 4: “Biological Control of Invasive Plants in Minnesota,” by Luke Skinner, DNR Coordinator for Purple Loosestrife Program. **Seed exchange. Put seeds of native plants in small packets, labeled with common and botanical names and source of seeds.**

Dec. 2: “Habitat Selection of Grassland and Woodland Birds,” by Tom Cooper, wildlife biologist, Minnesota Waterfowl Association. **Plant-of-the-Month:** *Viola lanceolata*, by Scott Milburn.

Feb. 3: To be determined

March 3: “Wetland Restoration at Pioneer Park in Anoka County,” by Jason Husveth, Critical Connections Ecological Services, Inc.

MNPS Web site

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MNPS awards lifetime membership to botanist Dr. R. H. Mohlenbrock

by Scott A. Milburn

The board of the Minnesota Native Plant Society recently awarded famed Illinois botanist Dr. Robert H. Mohlenbrock and his wife Beverly lifetime memberships in the society in recognition of Bob’s contributions to the botanical sciences.

Bob grew up in Murphysboro, a rural southern Illinois town located near Southern Illinois University (SIU) in Carbondale. During his youth, he had little interest in the subject of biology. However, during his junior year at Murphysboro Township High School, Bob apprehensively signed up for his first course in biology. He was fortunate to have as his biology teacher that year (1947) Miss E. Ester Smith, whom Bob credits for opening his eyes to an entirely different world. Bob describes Miss Smith as being very dedicated to the subject of teaching, encouraging the students to work in her lab after school, and taking them on field trips over weekends and during the summer months. Dr. Mohlenbrock and six other cohorts under the tutelage of Miss Smith went on to receive doctoral degrees in either botany or zoology and to teach at major university institutions. Bob went on to dedicate his book on *Ferns* from the *Illustrated Flora of Illinois* series to Miss Smith, acknowledging her as the person “who first instilled within the author a love for nature.”

Dr. Mohlenbrock received his Ph.D. from Washington University (St. Louis) in 1957 and immediately joined the botany faculty at SIU. He taught for 34 years, serving as chairman of the Botany Department for 16 years and as major professor for 90 masters and doctoral students. A number of these students also went on to have very successful careers. They include Gerould Wilhelm, author of *Plants of the Chicago Region*; Tom Elias, director of the U.S. National Arboretum and author of *Complete Guide to the Trees of North America*; and Larry Stritch, chief botanist, U.S. Forest Service. Dr. Mohlenbrock received many academic honors, has published nearly 50 books and 500 scientific papers, and has served as chairman of the North American Endangered Species Committee for the International Union for the Conservation of Nature for 14 years. He also writes a series, “*This Land*,” which he started in

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From The President

A warm fall welcome to all Minnesota Native Plant Society members! I am pleased to report that the society continues to grow with new members, and new programs and services for our membership. Over the summer months, our board of directors and many dedicated members have been very committed to improving the society, developing new ideas, and planning future programs, field trips, and symposia.

I'd like to thank Dianne Plunkett Latham, Linda Huhn, and member volunteers for assisting at the Minnesota Horticultural Society's native grasses display at the State Fair. They spread word of our mission and brought in members.

Karen Schik, Doug Mensing, Scott Milburn and Shirley Kooyman are planning our next symposium, on April 16, on Bogs and Fens of Minnesota. We are all looking forward to another fantastic day of scientific talks, networking, and socializing. Linda Huhn continues to plan excellent programs for the monthly meetings. Doug Mensing and I will lead several field trips.

This September, the board unanimously approved the development of a new society Web site, to be located at www.mnps.org. Over the next year, the site will be developed to include information on current society programs, symposia, field trips, and a wealth of archival information.

Of course, all of these efforts are to provide you, the member, with more opportunities to learn about, experience, and enjoy Minnesota's native flora and natural communities. We hope to see all of you at upcoming events, and we always welcome your comments and suggestions.

Jason Husveth, president

New MNPS Web site

Scott Milburn and Jason Husveth are constructing a new Web site at www.mnps.org. The new site contains a link to the old site.

2005 symposium to be on bogs and fens

Mark your calendars for the 2005 MNPS annual symposium, "*Bogs and Fens: Minnesota's Mysterious Mires*." It will be held Saturday, April 16, 2005, at the Arboretum. Watch for more details.

Can you help complete the society's archives?

The MNPS is now 24 years old. As we prepare for our 25th anniversary, we are assembling and organizing an archival collection of documents and information. Much of this material will be posted on the new Web site (under construction) and stored electronically on CD-ROM/DVD.

Were you an early member of the society, or do you know someone who was? Would you be willing to donate or loan materials for the archives? Loaned items will be returned, undamaged, after they have been scanned.

Materials that we need include:

- Minnesota Plant Press newsletters from the first issue through Vol. 7, 1988;
- Symposium brochures;
- Program handouts;
- Old MNPS brochures;
- Newspaper clippings.

If you have any of these items, or other mementos, please contact Jason Husveth at ccesinc.com. He will tell you if your material will fill one of the gaps in the archives.

A gift for the future

Consider giving a MNPS membership as a gift. Our mission of conservation and education regarding our botanical heritage will make your gift go a long way. Dues are: Individual or family, \$15; Full-time student or senior, \$8; Institution, \$20; Donor, \$25.

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Plant Lore

by Thor Kommedahl

What is leatherwood?

Leatherwood is *Dirca palustris* in the mezereum family, a small family of shrubs with an acrid, tough, and fibrous bark. It is the only member of this family native to Minnesota.

What do its names mean?

Dirca is named for Dirce, wife of Lycus, who after her brutal murder, changed into the fountain Dirce in Thebes (Greece). *Palustris* means "of swamps." Another name is wicopy, a Cree name for the inner bark of basswood. Because thongs were made from the bark, it was called leatherwood.

What does the plant look like?

It is a yellowish, largely-branching shrub from 3 to 6 feet tall. The wood is white, soft, and brittle. The bark is remarkably tough and fibrous. Leaves are alternate and more or less elliptical. Note the jointed twigs. Flowers are honey yellow, pendant, and give rise to clusters of 3-4 green, yellowish, or reddish drupes, each with large seeds.

Where do the plants grow?

In Minnesota, shrubs are found in rich woods near streams, in springy woods, or in swamps; hence the name *palustris*.

Does it have medicinal properties?

American Indians used the plant to treat toothache and drank bark tea as a laxative. However, contact with bark causes severe blisters and sores. The fruits, if eaten, cause violent vomiting, stupor, and vertigo.

Does it have any practical uses?

American Indians used the flexible shoots to make baskets and the bark for rope, thongs, bowstrings, and fish lines. Deer and moose graze on foliage and twigs.

Study of genetic diversity will help restorations

by Kristine Moncada, graduate student, Applied Plant Sciences Program, University of Minnesota
This is an abstract of her talk at the April 1, 2004, MNPS meeting.

Genetic diversity of native plants is an important biological property to study, particularly as it relates to restoration. By analyzing the genetics of a natural population, we are able to determine patterns of relatedness. These patterns give us clues of what plants are adapted to what sites. In restoration, we can then choose seeds from which area or zone would be most appropriate to that location.

The goal of restoration is to establish self-sustaining populations that have the capacity for future adaptation. By discovering the patterns of variation, we can then more closely emulate naturally occurring populations to ensure long-term success for a restoration.

My research is funded by the Minnesota Department of Transportation to aid in developing guidelines for seed collection for their restoration projects. In this project, I am studying the genetics of four native species: big bluestem (*Andropogon gerardii*), purple prairie clover (*Dalea purpurea*), prairie cordgrass (*Spartina pectinata*), and Joe-pye weed (*Eupatorium maculatum*). I have collected these species throughout their range within Minnesota.

Through analyzing the variation at the DNA level, we hope to find the patterns of natural diversity. We can then be able to develop seed transfer zones, which are geographical regions in which individuals of a native species can be transferred with no negative effects on the vigor of the population. It is important to know what seed is best for a restoration project. It can determine the success or failure of long-term plant establishment.

Dr. Mohlenbrock

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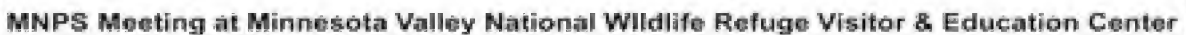
1984, for *Natural History Magazine*. These articles describe important natural areas in North America. Dr. Mohlenbrock is best known for his series of the *Illustrated Flora of Illinois*. The project was started in 1960, with the objective of publishing a complete illustrated account of every plant occurring in Illinois. To date, 16 volumes have been published or are in process. This remarkable series is extremely valuable to the Midwestern field botanist. He is currently working on a three-volume work dealing with the *Asteraceae* of Illinois and a four-volume set of places to visit within the National Forest system.

Since his retirement from SIU, Bob and Beverly travel. He teaches wetland plant identification courses across the country. These classes fill a void in what has become a recent trend in the academic world, an absence of biological field courses. I first met Bob by taking one of his wetland plant identification courses in Chicago a few years ago. He recently taught a field course in the Twin Cities, focusing on grasses, sedges, and rushes, and he will be back again next June to teach a class on wetland plant identification.

Learn to identify plants in winter on Nov. 13 field trip

Jason Husveth will lead a winter botany field trip at the Tamarack Nature Center in White Bear Twp., Ramsey County, Saturday, Nov. 13, from 9 a.m. to noon. He will focus on the identification of wildflowers, trees, and shrubs from persistent winter characteristics. Register early at jhusveth@ccesinc.com. Space is limited to 30 people. Details will be posted at www.mnps.org.

Fall 2004 Issue



What we saw on field trips

by Doug Mensing

The MNPS sponsored two spring field trips in 2004, participated in Minnesota's first Bio-Blitz, and co-sponsored one field trip over the summer.

Spring was welcomed by approximately 18 native plant enthusiasts who camped for the weekend or just joined the group for day hikes in and around Whitewater State Park over the weekend of May 7-9. Participants enjoyed the lush and diverse wildflowers of southeastern Minnesota at this special time of year. Several rare plants were also seen in their wild environments.

On May 22, approximately 20 participants met to hike and botanize at Louisville Swamp. Prairies, savannas, wetlands, floodplain forests, and woodlands were among the native habitats we explored, identifying species as we went. As with last year, new records of threatened kittentails were identified near the trail. High water added to the excitement as we waded across a flooded berm. It was enjoyable to see the benefits of restoration efforts. Bloodroot and other native species were growing in areas recently cleared of buckthorn and in areas that recently experienced prescribed burns.

Minnesota's first Bio-Blitz was held on June 11-12 at Tamarack Nature Center. This was a 24-hour "blitz" to identify as many living things within the nature center as possible. 707 species were identified (insects, mammals, birds, etc.), including 277 plant species (many contributed by MNPS members who surveyed portions of the park). Thanks to all who contributed to this important inventory of biodiversity.

On Aug. 28, the MNPS collaborated with the Cedar Lake Park Association to host an educational hike in this Minneapolis park. Keith Prussing, CLPA president, led approximately 16 participants on a tour, conveying the history of the park area and the restoration efforts that have been going on there for over a decade. The restored prairies were seen in their prime-season color. We witnessed results that can emerge from active, concerned citizens.

Humane Society applies Think Native grant to new memorial garden

by Dianne Plunkett Latham

The Wright County Humane Society has sent a letter of thanks for the MNPS \$200 Think Native grant. The money was applied to their Memorial Garden, on which they worked all summer. Their objective was to be ready for their fall festival Oct. 10.

By that time they anticipated having the southeast corner of the garden completed. This area includes natural pathways, two flowerbeds and the lawn area around them. They expect to plant the native grasses and the grass area around the wall, plus native pond plants before Oct. 31. The other beds will be developed and memorial plaques installed in the spring.

The Wright County Humane Society invites MNPS members to tour the garden. Call Eva Forcier at 320-963-4991 or Paula Savage at 763-479-1918.

Minnesota Native Plant Society Member Registration

Name _____

Address _____

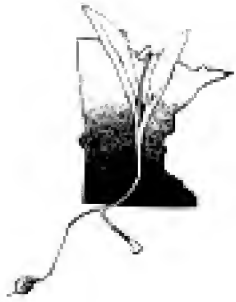
City _____ State _____ Zip _____

Phone (W) _____ (H) _____ E-Mail _____

Membership category (New _____ Renewal _____)

Individual	\$15	Senior (62 or over, or retired)	\$ 8
Family (2 or more related persons at same address)	\$15	Student (full time)	\$ 8
Institution	\$20	Donor	\$25

Please fill in this form and check the appropriate membership category. Your check should be made payable to the Minnesota Native Plant Society. Mail the completed form and your check to the Minnesota Native Plant Society, University of Minnesota, 250 Biological Sciences Center, 1445 Gortner Ave., St. Paul, MN 55108.



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Winter 2005

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Programs

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Feb 3: "Botanical Survey of Lyle-Austin, Minn., Wildlife Management Area: Prairie Remnants of the Chicago Great Western Railroad," by Paul Bockenstedt, restoration ecologist, Bonestroo Natural Resources. **Plant-of-the Month:** Sweet coneflower, by Bockenstedt.

March 3: "Wetland Restoration at Pioneer Park, Blaine, Anoka County," by Jason Husveth, Critical Connections Ecological Services, Inc. **Plant-of-the Month:** Jason's choice.

April 7: "Hardwood forest decline syndrome: The synergistic impact of deer and invasive earthworms," by Lee Frelich, U of Minn.; **Plant-of-the Month:** *botrychium*.

May 5: Native Grass Identification Workshop, by Anita Cholewa, Ph.D, curator of temperate plants, J.F. Bell Museum of Natural History. POM: TBD.

June 2: Program TBD. **Annual Plant Sale** open to the public.

New MNPS Web site

www.mnps.org
e-mail: MNPS@HotPOP.com

Symposium on bogs and fens to be April 6

by Karen Schik

Registration will soon be open for the 2005 MNPS Symposium: *Bogs And Fens — Minnesota's Mysterious Mires*. It will be held April 6, 8:30 a.m. to 4 p.m., at Warner Nature Center in Marine on St. Croix. The charming center, just 40 minutes northeast of St. Paul, is surrounded by woods and overlooks a bog — a perfect place for native plant enthusiasts!

Visit the new Web site (www.mnps.org) for registration details and to download a registration form, which will be available soon. Registration brochures will also be mailed to MNPS members. *Please note:* space for the symposium is very limited, so register early for this popular topic. A special attraction this year will be unscheduled time to visit the nature center's real bog and indoor bog exhibit.

Speakers and Topics:

- Introduction to Bogs and Fens — Paul Glaser, senior research associate, Limnological Research Center, University of Minnesota.
- The Flora of Minnesota's Last Frontier: Characteristic Vascular Plants of Fens and Bogs — Scott Zager, plant ecologist, Wildlands Ecological Services.
- Hydrology of Bogs and Fens — Jeanette Leete, hydrogeologist supervisor, DNR Waters.
- Patterned Peatlands — Paul Glaser.
- Saving Savage Fen — Steve Eggers, senior ecologist, U.S. Army Corps of Engineers, St. Paul.
- Large-Scale Bog Restoration for Wetland Mitigation — Thomas Malterer, program director, University of Minnesota Duluth Natural Resources Research Institute.
- SNA Program: Successes and Opportunities — Bob Djupstrom, program supervisor, DNR Scientific and Natural Areas Program.

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Century College accepts Think Native seed grant

by Dianne Plunkett Latham, chair of the MNPS Think Native program

Horticulture Instructor Ginny Coyle and 11 of her students in the Century College Horticulture Program accepted the MNPS Think Native seed grant at the Nov. 4 MNPS meeting. The seeds will be used to develop native plantings on their campus in White Bear Lake. With the Century College greenhouses, they are able to propagate plants from cuttings, divisions, or seeds to expand campus gardens or to share with other organizations. There are a wide variety of growing conditions on campus, and many areas are visible to the public.

For many years, the horticulture program at Century College was solely represented by satellite programs at Stillwater and Lino Lakes Correctional Facilities. When the Department of Corrections cancelled its contract with the college to provide vocational horticulture education in prisons, horticulture was reopened on campus. Century College now offers a two-year associate of science degree, which

transfers to the University of Minnesota, as well as occupational certificates, diplomas, and an associate of applied science.

Century College connects students with the community through service learning projects. Last fall, students in Coyle's Biology of Horticultural Crops class collected seed from "Jim's Prairie" for Ginny Gaynor, open spaces coordinator in Maplewood. Students in the Herbaceous Plants class this semester sowed the seed and will return the plants they grew to the Maplewood Nature Center for prairie restoration. Joy Cedarleaf, a biology instructor, teaches field biology and restoration ecology at the college. Coyle will coordinate plantings with Cedarleaf's classes as well, to involve as many students as possible. Last summer a pest management class was also offered. Anyone interested in the horticulture program at Century College should contact Ginny Coyle at 651-773-1726, ext. 2, or g.coyle@century.mnscu.edu

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Minnesota Native Plant Society's purpose

(Abbreviated from the bylaws)

This organization is exclusively organized and operated for educational and scientific purposes, including the following:

1. Conservation of all native plants.
2. Continuing education of all members in the plant sciences.
3. Education of the public regarding environmental protection of plant life.
4. Encouragement of research and publications on plants native to Minnesota.
5. Study of legislation on Minnesota flora, vegetation and ecosystems.
6. Preservation of special plants, plant communities and scientific and natural areas.
7. Cooperation in programs concerned with the ecology of natural resources and scenic features.
8. Fellowship with all persons interested in native plants through meetings, lectures, workshops and field trips.

MSHS plans June wildflower, forest ecology weekend on North Shore

The Minnesota State Horticultural Society is sponsoring a late spring wildflower and forest ecology weekend in the Grand Marais area on Lake Superior's North Shore Friday, June 3, through Sunday, June 5. They will have a series of exploratory hikes to discover the region's rich diversity of wildflowers and forest ecology.

Naturalist Kent Jones will lead an interpretive tour of some unique habitats that will feature the spring wildflowers of the boreal forest, northernmost maple-basswood forest, northern wetlands and Superior shorelands. Hikes will also include participants' interests in birds, butterflies, charismatic megafauna, geology, cultural history, and general forest ecology.

The program begins Friday with a 7 - 9 p.m. wine and snack social at a location to be announced. Saturday will include two or three hikes (depending on the weather) and a provided lunch. A Sunday morning hike will conclude the program.

Kent Jones worked for over 20 years in the metro area as an interpretive naturalist for a variety of nature centers and the Three Rivers Park District. His love of the north finally got the best of him in 2001, when he moved to the Grand Marais area. He spends his spare time canoeing, kayaking, and hiking the north shore area in search of the best blueberry patches, unusual wildflowers, and rare birds.

The cost is \$125 per MSHS member, \$150 for non-members. This includes snacks and beverages on Friday night, and deli style lunch on Saturday. Participants must be able to hike on uneven ground and be prepared for inclement weather. Transportation is on your own. For

Volunteer Opportunities at Grey Cloud Dunes SNA

by Karen Schik

Funding for the DNR Scientific and Natural Areas Program was drastically reduced in recent years, so the DNR is more than ever in need of volunteers to help manage our highest quality natural areas. In response to that need,

Learn to identify winter woody plants at Falls Creek SNA

by Doug Mensing

On Saturday, March 12, MNPS Board Members Ken Arndt and Scott Milburn will lead a woody plant identification field trip to Falls Creek Scientific Natural Area. This is three miles north of Copas on State Highway 95 in Washington County (between Stillwater and Taylor's Falls).

We will meet at 9 a.m. at the parking lot off of Hwy. 95, where we will enter the SNA and hike until noon. We will be learning how to identify the trees, shrubs, and vines that comprise this type of northern hardwood and coniferous forest by their buds, bark, and form. You will also learn about the history and current management practices that the DNR has implemented for this special SNA.

For more information about Falls Creek Scientific Natural Area and a map on how to get there, go to www.dnr.state.mn.us/snas/sna01057/index.html.

The field trip is limited to 25 people. Steep slopes will be encountered along the walk down to the creek to the bottom of the ravine. Look for more details in the near future at www.mnnps.org.

information on lodging or to pre-register, contact Vicky Vogels, community outreach coordinator, MSHS, at 800-676-6747; 651-643-3601, ext. 211; or at www.northerngardener.org

and as part of the core mission of the society, the MNPS board voted in 2004 to "adopt" Grey Cloud Dunes SNA in Cottage Grove. We have committed to work with the DNR and to assist with management activities at this spectacular dry prairie site along the Mississippi. We will post volunteer opportunities in each newsletter, as well as on the MNPS website. Check back often!

Burning Desire

Saturday, Feb. 19, 10 a.m. – 2 p.m. Come to Grey Cloud Dunes to burn brush piles (already stacked). Bring something to roast for lunch!

Brush cutting

Saturday March 26, 9 a.m. – 1 p.m. Cut, treat and stack honeysuckle. Training and tools provided.

Site Steward

Any time, any day. In addition to group events, individual volunteers are needed to be site stewards at Grey Cloud Dunes. Site stewards typically make regular (e.g. monthly) site visits and report their findings to the DNR. They record things like new invasive species locations and evidence of illegal activities, and do simple activities like picking up trash. Being a site steward is a good excuse to do what most of us want to do anyway — get out to a beautiful natural area on a regular basis. And you'd be doing something valuable in the process.

To sign up for any activity, please e-mail Karen Schik at: kschik@fmr.org or call: 651-222-2193, ext. 15 (w) or 651-433-5254 (h). More instructions and directions will be provided.

Research evaluates little bluestem varieties for state

by Mary H. Meyer, associate professor, Department of Horticultural Science, University of Minnesota. This is an abstract of her talk at the May 6, 2004 meeting.

Schizachyrium scoparium, or little bluestem, is native to most of the United States, with the exception of the far western states and Florida. Typically an upland grass, little bluestem is known for its drought tolerance and ability to grow on sandy and poor soils. It is a dominant grass in tall- and short-grass prairies and is found throughout Minnesota.

The USDA has released several varieties of *Schizachyrium scoparium*, beginning in the 1960s. 'Aldous,' 'Blaze,' 'Camper,' 'Cimarron,' and 'Pastura' were the result of breeding programs to improve grasses available for forage and range use in the central United States. In 1997, the USDA Plant Materials Center in Bismarck, N.D., released 'Badlands,' an ecotype selected from collections from North and South Dakota. 'Badlands' is adapted for range seeding, prairie restoration and prairie landscaping. None of these selections are from Minnesota native little bluestem.

At the University of Minnesota, we have conducted research on little bluestem in five projects that are described below. All of these projects, except the competition study, have been published.

Seeding date and establishment

In this research, the best planting dates for little bluestem were May 1 through July 20. Dormant seedlings were not successful for the two years, 1996 and 1997, of the project. As expected, rainfall influenced the success of most seedlings.

Field seedling identification

Identification of grasses without floral parts can be a challenge. In prairie restoration, the ability to

identify grass species in the seedling stage is necessary to determine if the planting has been successful. Little bluestem was one of 15 native and introduced grasses that were analyzed and described in a vegetative key to identify seedlings. Little bluestem seedlings have a flat sheath, are folded in the bud, have no auricles, the culm base is often tinged pink or maroon, and the first tillers fan out in a plane.

Minnesota population and new selections

A spaced planting of 35 Minnesota little bluestem populations was established in 1996 and 1997. Collections were made from parks, nature preserves, railroad rights of way, and other natural areas. Seed was germinated, and plants were established in three replications of eight plants each on the St. Paul campus. Plants continue to be evaluated for variation in flower time, height, color, and lodging. In 2004, a selection from Benton County that has been evaluated at several Research and Outreach Centers was advanced to a new release, and a plant patent has been applied for *Schizachyrium scoparium*, 'Blue Heaven.'™ This selection is taller, with dark blue summer foliage color and bright blue to pink fall color. Commercial growers interested in propagating this new release should contact the U of M for a nonexclusive license. Work will continue to identify other new ornamental forms of little bluestem.

Propagation time and aeration porosity

Little bluestem plugs and field divisions grew equally when propagated in the fall or spring in another study. Both over-wintered well and grew adequately in all aeration porosities from 5-41

percent. Little bluestem appears to be well adapted to diverse growing conditions and methods of propagation.

Competition study with *Miscanthus*

This study has not been finalized for publication, but in an additive competition study, little bluestem was not affected by adding *Miscanthus*, a non-native ornamental grass that has been shown to be invasive in Middle Atlantic States. Little bluestem was not reduced in root or shoot growth when grown with one or two *Miscanthus* plants in this 22-week greenhouse competition study. Thus little bluestem is a competitive, adaptable native grass.

Study predicts broad changes from global warming

Global warming won't affect just a few species of plants and insects — it will challenge many interdependent species, according to a report recently released by the Wildlife Society.

Some results of early springs are already visible, such as the shrinking Porcupine herd of caribou, whose migration patterns have been disrupted. Seasonal ponds in the Midwest are drying up earlier in the year, affecting ducks. Sugar maples may disappear from this country as their range moves northward.

Time factors, such as arrival of predators and pollinators, will be major concerns. The surging population of timber-destroying spruce budworms in Minnesota's boreal forests has been attributed to a northward shift of warblers that once held the worms in check.

The study also shows that some ecosystems will not move, but will vanish. For example, if rising sea levels flood coastal zones, physical and man-made barriers will prevent wetlands from re-creating themselves further inland.

What is effect of habitat on bird numbers?

by Tom Cooper, wildlife biologist, Minnesota waterfowl Association. This abstract of his talk at the Dec. 2, 2004 meeting is based on research for his South Dakota State University Ph.D. thesis, "Forest and grassland bird occurrence and habitat selection in the prairie-forest transition zone of Minnesota."

Some forest and grassland birds have experienced population declines in the midwestern United States due to habitat loss and fragmentation. Wildlife managers need to understand habitat requirements at multiple spatial scales for these birds when planning habitat protection and restoration efforts.

Our objectives were to assess bird use of grassland/forest patches in the prairie-forest transition zone of Minnesota and to model species occurrence at multiple spatial scales. We conducted more than 180 point counts in 2003 and 2004 to determine bird species presence in each cover type. Local vegetation variables were measured on site, and landscape variables were determined with a geographic information system.

Models incorporating landscape and local variables were developed to predict the probability of occurrence for bird species of management concern. Akaike's *Information Criterion* was used to rank candidate models. We counted 53 different bird species in grasslands and 71 species in forests. Thirteen bird species were U.S. Fish and Wildlife Service resource conservation priority species.

Common yellowthroats (*Geothlypis trichas*), bobolinks (*Dolichonyx oryzivorus*), and sedge wrens (*Cistothorus platensis*) were the most common birds in

Winter is easiest time to find and kill garlic mustard

by Dianne Plunkett Latham

Garlic mustard, *Alliaria petiolata*, looks innocent on the forest floor of a local park, or at the edges of your property — but it is not innocent. This rapidly spreading alien displaces native wildflowers and other flora in woodlands. Check your property — garlic mustard is easy to spot now because it is one of the few green plants on the forest floor from late fall until wildflowers break dormancy in early April.

In its first season, garlic mustard has rosettes of three or four rounded or kidney-shaped, dark green leaves with scalloped edges two to six inches tall. In May and June during its second year, the rosettes send up flower stalks, one to four feet tall, with alternate, sharply toothed leaves. Clusters of small white flowers top the stem. New leaves smell like garlic when crushed. The fragrance fades by fall. The seed capsules are one to two inches long, with 100 or more seeds per plant disseminated mid-July to August.

Because this biennial overwinters as a green plant, it gets a head start on native plants in the spring and aggressively monopolizes light, moisture, nutrients and soil. If not controlled, it can carpet a woodland floor. Garlic mustard threatens not only woodland plant diversity, but also the wildlife whose sources of

grasslands. Eastern wood-pewees (*Contopus virens*), red-eyed vireos (*Vireo olivaceus*), and great crested flycatchers (*Myiarchus crinitus*) were the most common birds in forests. Modeling indicated that different species responded to habitat conditions on various spatial scales. Thus, scale needs to be considered when planning habitat protection, management, and restoration projects to benefit grassland and forest birds.

food are the foliage, pollen, nectar, fruits and seeds of our native plants. Garlic mustard has no known natural enemies in North America, is self-fertile, and is difficult to eradicate once established. Thus, the best and most effective control method is to prevent its initial establishment. Garlic mustard is on the State of Minnesota's Prohibited Noxious Weed list requiring its control or elimination (Rule 1505.0730).

To remove garlic mustard from your property, you may either hand-pull, spray with three percent RoundupÆ (glyphosate), or place mulch over seedlings. If you hand-pull, remember that this biennial has a taproot like a dandelion and will regenerate if any part of the root remains in the ground. Seedpods may ripen even after pulling, so if flowers and seedpods are present, bag the plants immediately and send them to the landfill, not to the compost pile.

If you choose to spray, the best time to do it is when native plants are dormant between mid September and mid March. Glyphosate is a non-selective herbicide and will kill any plant that is photosynthetic (actively growing). Because garlic mustard stays green all winter, you can spray it whenever the temperature is above 32 degrees.

Garlic mustard seeds remain viable for five to seven years, continuing to sprout after removal of the colony. As a consequence, it is critical that the area be mulched with two to four inches of leaves or grass clippings. This should continue until the seed bank is exhausted in five to seven years.

Garlic mustard needs to be controlled before buckthorn is removed in proximity to it. This will prevent a burst of garlic mustard germination upon opening the forest floor to light, after removal of the buckthorn canopy.

American lotus is state's largest wildflower

by Dianne Plunkett Latham. This is an abstract of her Oct. 7, 2004 Plant-of-the-Month talk.

There are only two species in the lotus genus *Nelumbonaceae* — *Nelumbo lutea* (zone 4a) and *Nelumbo nucifera* (zone 5). The American lotus, *N. lutea*, occurs in Minnesota along the Mississippi River between St. Paul and Iowa. It is also found in a few lakes in the vicinity of the Twin Cities, where Native Americans may have planted it for food. It grows in quiet waters, including ponds, lakes, and on the edges of slow moving streams and rivers.

It ranges from Iowa and Minnesota to Ontario and New York, and south to Oklahoma, eastern Texas and Florida. It also occurs in the West Indies and Central America, and south to Columbia.

The American lotus produces the largest flower of any plant in North America, just edging out *Magnolia grandiflora* and *Hibiscus grandiflora*. *N. lutea*'s stately pale yellow flowers measure 6-10 inches in diameter. Leaf platters grow up to 20 inches in diameter, on stalks of up to six feet in height.

Lotus was an important food source for Native Americans. The rhizomes produce starchy tubers that can be baked like sweet potatoes and are said to be delicious. The young leaves, before they unroll, can be steamed or boiled like spinach. Immature seeds can be eaten raw.

Mature seeds can be shelled and the kernels roasted and eaten like nuts or ground into flour. Today, the interesting seedpods are often used in dried flower arrangements. Lotus spp. are protected in Minnesota,

however. Under the Conservation of Certain Wildflowers (Minn. Statutes 18H.18), "No person shall distribute ... lotus (*Nelumbo lutea*), which have been collected in any manner from any public or private property without the written permission of the property owner and written authorization from the commissioner."

Lotus plants require several weeks of sunny weather with temperatures above 80 degrees F in order to bloom. *N. lutea* is suitable for zone 4a and is not as sensitive to cool summer temperatures as is its zone 5 cousin, *N. nucifera*.

Lotus can only be cultivated in circular containers. If the growing tip gets caught in a square corner, it will die. Great care must be exercised in transplanting so as not injure the growing tip, or it will die. Lotuses grow rapidly and typically have to be subdivided at least every other year in containers. Because *N. lutea* is a large lotus, it requires a large container if you want to cultivate it.

In August 2004, I visited the Missouri Botanical Garden's Linnean House reflecting pools, where their *N. lutea* is grown in 15-gallon concrete containers. With such a large container, the Linnean House *N. lutea* had not been subdivided for four years. There it overwinters outdoors in the Linnean House pool. St. Louis is in zone 5b, and their pools do not freeze solid during the winter as do ours in zone 4. Lotus cannot be grown in containers in zone 4 without winter protection.

On our mid-August 2004 trip I also observed *N. lutea* profusely flowering at peak bloom along the Mississippi River outside of Nauvoo,

Illinois, as well as entirely filling an earthen pond on the grounds of the St. Louis Jewel Box Conservatory. Profuse is an understatement, as *N. lutea* was moving into the lawn along the earthen pond embankments where mowing appeared to be the Jewel Box ground keeper's only defense!

If planted in a favorable location, lotuses will quickly take over. Water gardeners should not plant lotuses in private earthen ponds or in private natural areas they don't want them to take over. Most lotus varieties are at least marginally hardy in zone 4 and would rapidly take over if not killed by the pond going dry and then the dry ground freezing solid during a winter without snow cover.

Lotus seeds excavated from Chinese tombs have been found viable after 2,000 years! Lotus seeds would not remain viable that long when exposed to nature's forces, however.

Pests and diseases that sometimes trouble lotuses include leaf spots, caterpillars, spider mites and white flies.

Would you like to help the MNPS as a board member or officer?

The MNPS is actively looking for officers and board members to serve terms beginning July 1, 2005. If you are willing to serve on the board of directors (three-year term), or as treasurer, secretary, vice president or president, contact Dianne Plunkett Latham, nominating committee chair, at 952-941-3542 before Feb. 15.

We are in particular need of a treasurer. To find out more about those duties, contact our current treasurer, David Johnson, at 763-571-6278.

Winter botany field trip was devoted to plant identification

by Doug Mensing

On Nov. 13, the Minnesota Native Plant Society sponsored a winter botany field trip at Tamarack Nature Center in White Bear Township. About 15 native plant enthusiasts met in one of the nature center's classrooms, where the society's president, Jason Husveth, began by reviewing a variety of field guides and other resources useful for winter plant identification.

We then proceeded to walk outside into the chilly air and applied what we had learned in a variety of natural and restored ecosystems, including prairies, wetlands, and forests. Jason showed the group persistent late fall and winter characteristics, and explained how habitats and associated plant species can assist with plant identification. Ken Arndt, a MNPS board member, led the forest portion of the walk, where we focused on woody species. Numerous wildflowers, grasses, sedges, shrubs, and trees were identified by the group.

Following the walk, participants met back inside the classroom to warm up with tea, coffee, and conversation. The MNPS would like to thank Tamarack Nature Center for their hospitality at the event, which was thoroughly enjoyed by all.

In early March the society will sponsor another winter field trip, at Falls Creek SNA. An article about that trip is on page 3.

Prairie restoration handbook is available online from DNR

Going Native: A Prairie Restoration Handbook for Minnesota Landowners is available online at www.dnr.state.mn.us and at DNR offices. Ellen Fuge edited the 63-page book, which was illustrated by Rebecca Kilde.

Lance-leaved violet is rare in Minnesota

by Scott A. Milburn, M.S., P.W.S., wetland ecologist/botanist, Critical Connections Ecological Services, Inc. This is an abstract of his Plant-of-the-Month talk at the Dec. 2, 2004 meeting.

Viola lanceolata, the lance-leaved violet, is a member of the violet family, having the characteristic zygomorphic flowers, a five-parted corolla, and a spurred anterior petal. The genus is represented by 17 native species and two introduced species in this state. The species is one of several in the group of stemless or acaulescent white flowered violets present in Minnesota. The stem appearance can be somewhat deceiving, with the stem actually below ground. Keys to aid in the identification of the species are the narrow, strap-like leaves, which are often three to six times longer than wide. The species is known to flower in May and June, but it can continue flowering late into the year.

This violet is a "state threatened" species that tends to inhabit saturated to wet habitats with sandy or organic substrates, including lakeshores, sedge meadows, and open bogs. These habitats typically experience some sort of disturbance event, which benefits this species due to its inability to compete with larger species.

Lance-leaved violet is a pioneering species with a reproductive strategy that incorporates self-fertilization, cross-fertilization, and vegetative reproduction. As competition for light and nutrients increases within the community, the size of the population decreases, and the population waits for the next disturbance event. The species is adapted to follow a disturbance event by quickly germinating from the seed bank or by colonizing an open area vegetatively.

In Minnesota, this violet is commonly found in the Anoka Sandplain, with the greatest threat to

Plant Lore

by Thor Kommedahl

What is New Jersey tea?

New Jersey tea is a shrub in the buckthorn family. Its name is *Ceanothus americanus*.

How did it get these names?

Although native to Minnesota and many other states, *Ceanothus* species are distributed worldwide. Theophrastus used this name, which means thistle in Greek, probably because of *C. spinosus*, which has spiny stems. It was called New Jersey tea because of its use during the American Revolution as a substitute for tea after the Boston Tea Party.

What does the plant look like?

It is a shrub up to three feet tall; it has white five-petaled flowers in cluster, and its fruit is a three-lobed, capsule-like drupe. It grows in dry, open areas, dry gravelly banks, and in open woods in the state.

Does it have any medicinal uses?

Tea made from its leaves is an excellent beverage, and American Indians made tea from leaves. The Indians also made tea from roots as a treatment for colds, stomachaches, and lung ailments. An alkaloid in its roots has been used for lowering blood pressure.

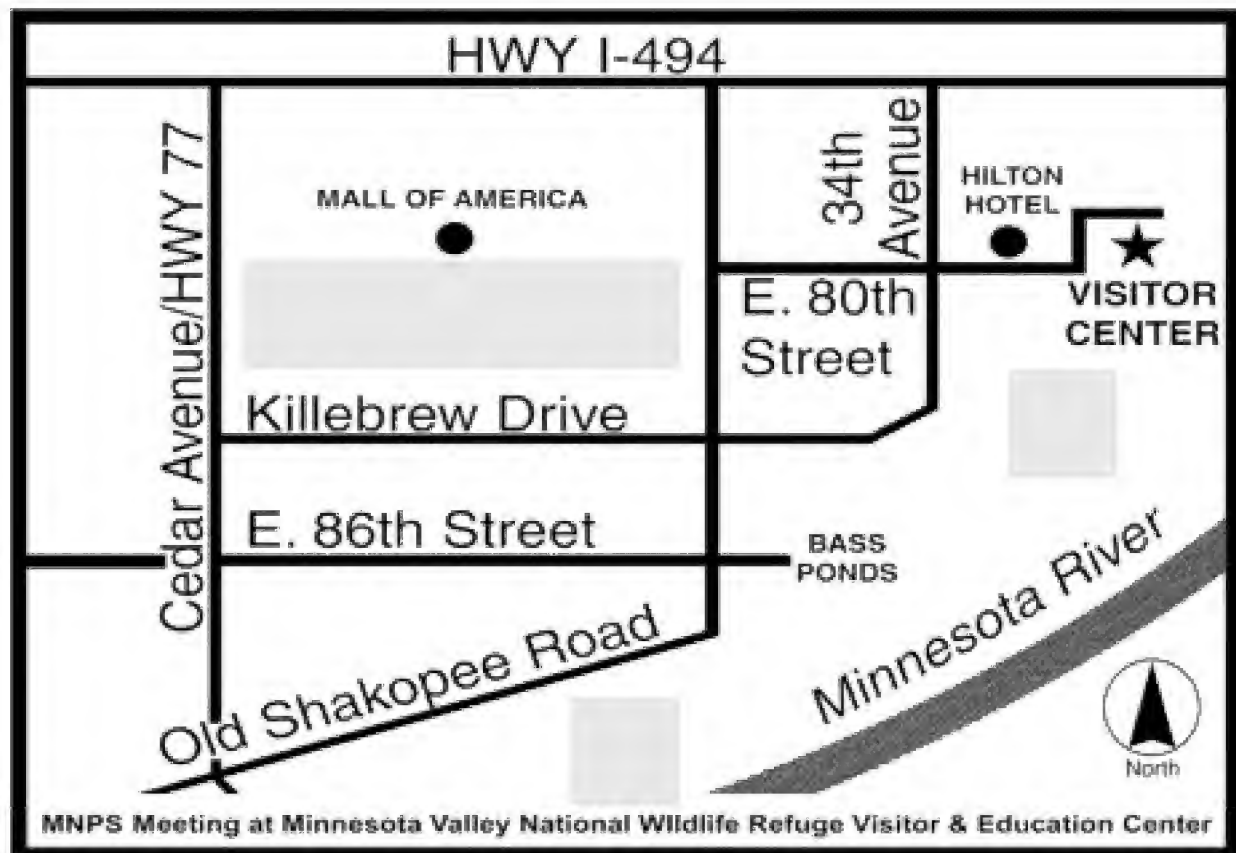
Are there other economic uses?

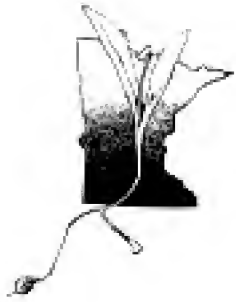
The roots harbor nitrogen-fixing actinomycetes, which are useful in soil improvement. Horticulturally, other species have been grafted to roots of *C. americanus* to produce garden hybrids.

this species statewide being loss of habitat via development. The species is further negatively affected by fire suppression, altered hydrology, and competition from invasive species. Until recently, there was great concern regarding the dwindling number of populations of this species. However, due to recent intensive botanical work in the Anoka Sandplain, numerous populations have been located.

Minnesota Native Plant Society
University of Minnesota
250 Biological Sciences Center
1445 Gortner Ave.
St. Paul, MN 55108

Winter 2005





Minnesota Plant Press

The Minnesota Native Plant Society Newsletter

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Monthly meetings

Minnesota Valley National Wildlife Refuge
Visitor Center, 3815 American Blvd. East
Bloomington, MN 55425-1600
952-854-5900

6:30 p.m. — Building east door opens
6:30 p.m. — Refreshments,
information, Room A
7 – 9 p.m. — Program, society business
7:30 p.m. — Building door is locked
9:00 p.m. — Building closes

Programs

The MNPS meets the first Thursday in October, November, December, February, March, April, May, and June. Check the Web site for more program information.

May 5: Native Grass Identification Workshop, by Anita Cholewa, Ph.D, curator of temperate plants, J.F. Bell Museum of Natural History. **Plant-of-the Month:** Bottle Grass (*Elymus hystrix*), presented by Erin Hynes, President of the Ornamental Grass Society of Minnesota and author of *Cold Climate Ornamental Grasses*.

June 2: “Forests, Logging and Plants: How forest management and natural history interact to affect northern forest understory plant communities,” by Daniel R. Dejoode, senior natural resources specialist for Peterson Environmental Consulting, Inc. **Annual Plant Sale**, open to the public.

New MNPS Web site

www.mnnps.org
e-mail: contact@mnnps.org

MNPS Listserve

Send a message that includes the word “subscribe” or “unsubscribe” and your name in the body of the message to:
mnnatpl-request@stolaf.edu

Explore natural areas during five field trips

MNPS members will lead five field trips to natural areas this spring and summer. They are to the Falls Creek Scientific and Natural Area, Beaver Creek Wildlife Management Area, Hayden Prairie (Iowa) State Preserve, Grey Cloud Dunes SNA, Boot Lake SNA, Helen Allison Savanna SNA and Cedar Creek Bog.

Participation may be limited, so early registration is encouraged. Site directions and other information will be provided to registrants. Details and updates for upcoming field trips are available on the Society’s Web site, www.mnnps.org

Sunday, May 15 — Falls Creek SNA Spring Wildflowers

10 a.m. to 12 p.m. Arrive by 9:45 a.m.

Northern Washington County, Minnesota

Led by Barb Delaney, professional botanist

Contact: Doug Mensing, fieldtrips@mnnps.org or 612-202-2252

This trip was planned as a follow-up to a wonderful winter foray. Please join us in exploring a truly unique plant community — virgin white pine forest on the ravines of the St. Croix River. We will see abundant spring wildflowers, such as trilliums, rue anemone, bellwort, and some rare species, such as kittentails.

Saturday, May 21 — Spring Flora at Beaver Creek WMA and Hayden Prairie State Preserve

10:30 a.m. to 4 p.m. (12:30 p.m. lunch at Hayden Prairie)

Fillmore County, southeast Minnesota and Howard County, Iowa.

Led by Mark Leoschke, Iowa

DNR state botanist, and Paul

Bockenstedt, Bonestroo natural resources plant ecologist

Contact: Paul Bockenstedt,

651-604-4812, or

pbockenstedt@bonestroo.com

Join members of the Minnesota Native Plant Society, Iowa Native Plant Society and Iowa Prairie Network for a day afield on the Iowan Surface as we

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Plant sale to be after June 2 meeting

The annual MNPS native plant sale will be June 2, following the meeting. Plants will again be arranged on the low walls in front of the Visitor Center. Members are asked to start bringing native plants they have raised from seed or grown in their gardens at 6 p.m. Plants must be individually potted and labeled.

No out-of-state plants can be accepted unless they have been certified by the Department of Agriculture of the state in which they were grown. Minnesota has reciprocity with all other state departments of agriculture, so they will let in plants from other states if they were certified there.

A few volunteers are needed to help accept and arrange the plants. When the sale begins, these volunteers may select their plants first; members who brought plants may choose next. Other members and visitors will follow.

Dave Crawford and Gerry Drewry are chairs of the sale. To volunteer, contact Gerry Drewry at 651-463-8006, or gdrewry@infionline.net

Evelyn Moyle named honorary member of MNPS

by Esther McLaughlin

Last year Evelyn W. Moyle was given a well-deserved honorary membership in the Minnesota Native Plant Society as one of the state's longest standing experts on and protectors of our native plants.

She and her late husband, John B. Moyle, co-authored the well-known guide, *Northland Wild Flowers: A Guide for the Minnesota Region*. It was first published in 1977 and has been reprinted, most recently in 1984.

John was a biologist and research supervisor at the Minnesota Department of Natural Resources. Evelyn, a wildflower enthusiast, photographer and gardener, took most of the photographs in the first edition of the book.

The Moyles were charter members of our Society and were present at its founding. Evelyn has long been devoted to the principles on which the MNPS was founded and is greatly deserving of honorary membership.

MNPS Board of Directors

President: Jason Husveth, Critical Connections Ecological Services Inc., 14758 Ostlund Trail N., Marine on St. Croix, MN; 651-247-0474; jhusveth@ccesinc.com

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Technical or membership inquiries: contact@mnnps.org

Minnesota Native Plant Society's purpose

(Abbreviated from the bylaws)

This organization is exclusively organized and operated for educational and scientific purposes, including the following:

1. Conservation of all native plants.
2. Continuing education of all members in the plant sciences.
3. Education of the public regarding environmental protection of plant life.
4. Encouragement of research and publications on plants native to Minnesota.
5. Study of legislation on Minnesota flora, vegetation and ecosystems.
6. Preservation of special plants, plant communities and scientific and natural areas.
7. Cooperation in programs concerned with the ecology of natural resources and scenic features.
8. Fellowship with all persons interested in native plants through meetings, lectures, workshops and field trips.

Changing Faces on MNPS board

by Karen Schik

While many of our members may not be aware of the “inner workings” of the Society, a lot goes on behind the scenes. There are nine board members, who spend a considerable amount of time on the organization and functions of the Society, plus quite a few members who also volunteer tremendous amounts of time and talent. I want to recognize our departing board members and say a huge “Thank You” to each of them for their many contributions.

David Johnson served on the board as treasurer and membership database manager this past year, but his contributions far exceed one year. He has been providing his services as treasurer and data manager for almost seven years. We hardly noticed what he did because he quietly went about doing it so well that it just seemed to happen on its own. In fact, he updated both the financial and membership databases to more useful programs, and has monitored all that information all these years. David produced the membership directories and all the monthly mailing labels, including the little “membership expired” reminders. David will be sorely missed

Doug Mensing served on the board for the last three years. Doug was the one you could count on to help out with everything, whether to speak at a conference or to help clean up after it. A busy dad of two young children and a professional ecologist, Doug somehow made the time to contribute countless hours for countless events, organizing field trips, and working on the symposium. There wasn't much that Doug didn't do. We will miss his

enthusiasm, readiness, and competence serving on the board.

Dianne Plunkett Latham served nearly two years on the board, stepping down recently to pursue her many other interests, including travel. But Dianne made up for her shortened term by her engagement in the board and her many contributions, which included coordination of the Think Native Program, chairing the Conservation Committee, staffing the booth and giving presentations at numerous events. Perhaps her more core contributions to the society, however, were the ways that she helped to steer some of the board policies and operations. She repeatedly brought her expertise as an attorney and her experience serving on other boards to help guide our board. Her knowledge, thoughtfulness, and enthusiasm will be greatly missed.

On the flip side of these good-byes, the board is very pleased to welcome three new members: Daniel Jones, ecologist at Barr Engineering (who has already stepped in to fill Dianne's term), Mary Brown, a long-time member and native plant enthusiast, and Sandy McCartney, St. Louis Park tree inspector (who will both start their terms in June 2005). Each brings talents and experiences that will help the Society to keep growing strong.

Treasurer's Report

by David Johnson

In 2004 we had \$13,548.35 of income and \$9,074.54 of expenses. We increased our assets by \$4,473.81, mostly because of the 2004 symposium.

Our assets, as of Dec. 31, 2004, were: CD, \$1,063.40; Checking, \$11,279.51; Cash, \$52.00.

MNPS maintains dedicated funds in the checking account for the following projects: Refuge Avian Feeder Project, \$776.68; Think Native, \$641.07.

Volunteers are needed June 10, 11 for BioBlitz

Minnesota's second annual BioBlitz will be from 5 p.m. to 5 p.m. Friday and Saturday, June 10 and 11, at the Minnesota Valley National Wildlife Refuge. MNPS members are invited to assist. The BioBlitz is a festival, a contest, an educational event for the public, and a scientific endeavor. While scientists from around the state are conducting an intense biological survey, walks and demonstrations will be held at the MVNWR Visitor Center.

The scientific goal of a BioBlitz is to count as many species of plants and animals as possible during a 24-hour biological survey of a natural area. More than 750 species were recorded during the first Minnesota BioBlitz, which was held in 2004 at Tamarack Nature Center in Ramsey County.

Volunteers are needed to assist in surveys and to help lead walks for the general public. Survey subjects include reptiles, amphibians, birds, mammals, fish, butterflies, moths, beetles, ants, flies, bugs, spiders, mites, centipedes, worms, snails, grasses, sedges, trees, flowers, and mushrooms. To volunteer or for more information, contact John Moriarty at 651-748-2500, or Dr. Susan Weller at 612-625-6253.

Additional information on the BioBlitz is available at www.bellmuseum.org

For information on the Saturday morning, June 11, “Rally for the Refuge” run, which is sponsored by the Friends of the Minnesota Valley, see www.friendsofminvalley.org/rally.htm

Enthusiastic group enjoys winter field trip

by Ken Arndt

On Saturday, March 12, MNPS Board Members Ken Arndt and Scott Milburn led over 25 enthusiastic winter botanists to Falls Creek Scientific and Natural Area to learn winter woody plant identification. What started as a slightly chilly morning turned into a beautiful winter day in northern Washington County.

The group started out in the northern part of the SNA, where we learned about the forest restoration that is taking place. From there we hiked down the first of two forested ravines, identifying trees and shrubs along the way. At a lower terrace along this first hike, we came across an area where we observed several large white pines that were over 26 inches in trunk diameter. Having obtained a special permit from the director of the SNA program, we were allowed to take increment borings of a few of these trees to determine their ages.

The second part of the morning, we hiked, slipped and slid down the steep ravine in the southern part of the SNA. A high diversity of plants occurs where one of the creeks flows past. Trees such as butternut, bitternut hickory, yellow and paper birch, blue beech, sugar and red maple, pagoda dogwood, red and bur oak, black cherry, and red and white pine were encountered along the way to the east property line. It was here where we came across several populations of downy rattlesnake plantain orchid (*Goodyera pubescens*). By the time we made it back up the ravine to the parking area, many of us had shed the multiple layers of clothing we started out the day with.

Field trips

Continued from page 1

explore the prairie, wet meadow, and low oak savannas of Beaver Creek WMA in Fillmore County, and then drive six miles to Iowa to spend an afternoon on the internationally renowned Hayden Prairie. See Beaver Creek WMA and Hayden Prairie in full spring regalia.

Tuesday, June 7 — Grey Cloud Dunes SNA Prairie Hike

6 to 8 p.m., Cottage Grove, southern Washington County, Minnesota
Led by Karen Schik, Friends of the Mississippi River restoration ecologist and MNPS board member

Contact: Doug Mensing, dougm@appliedeco.com or 612-202-2252

Join members of the Minnesota Native Plant Society for a hike through one of the metro area's natural gems — the dry prairies of Grey Cloud Dunes SNA. Participants will explore this beautiful remnant native prairie and learn about restoration efforts underway. This SNA was "adopted" by the MNPS in 2004, and the Society has intermittent events at the site.

Saturday, July 9 — Bogs and Fens Field Trip

9 a.m. to 2 p.m., East Bethel, Anoka County, Minnesota

Boot Lake SNA and other nearby bogs and fens

Led by Jason Husveth, MNPS president, botanist

Contact: Jason Husveth at president@mnnps.org or 651-433-4410.

Boot Lake SNA contains a continuum of plant community types including oak forest, aspen-shrub thickets, and prominent old white pine stands; the wetland contains wooded bog, wet meadows, floating mats, emergent aquatic plants, duckweed, and algal communities. Rare plant species (water willow, sea-beach needle grass, and long-bearded hawkweed) are present, along with occasional sandhill cranes and Blanding's turtles. Red-shouldered hawks, pine warblers, Louisiana waterthrush and other bird species nest on the site. Woodland wildflowers make a late spring visit memorable. A long-term research project is studying the effects of deer in forest succession.

Sunday, Sept. 18 — Helen Allison Savanna SNA, Cedar Creek Bog

2 to 5 p.m., Bethel, Anoka County, Minnesota

Led by Hannah Texler, Minnesota DNR regional plant ecologist

Contact: Doug Mensing, fieldtrips@mnnps.org or 612-202-2252.

Helen Allison Savanna SNA is a prairie and oak savanna. It was named for Helen Allison Irvine, "Minnesota's grass lady," who wrote a text on the 180 grasses of Minnesota. This SNA lies within the Anoka sand plain, providing an excellent example of sand dune plant succession, with blowouts and dunes in various stages of stabilization by pioneer species. Community types found on the site include oak sand savanna, dry prairie with bur oak and pin oak, thickets of willow and aspen, and sedge marshes in scattered depressions. Trees and shrubs include pin oak, bur oak, American hazelnut, chokecherry, willow, and quaking aspen. Other savanna species include lead plant, smooth sumac, slender willow, steplebush, aster, and goldenrod. Look on the dunes for pioneer sand plants such as sea-beach, needle grass and hairy panic grass. Sedge meadows contain tussocks of Hayden's sedge, along with marsh fern and blue-joint grass. Other rare species include long-bearded hawkweed, rhombic-petaled evening primrose, and tall nut-rush.

A side trip will take participants on a short boardwalk through the nearby Cedar Creek Bog, which is located at the University of Minnesota Cedar Creek Research Center. This is one of the most interesting bogs in the Anoka sand plain. Common plant species include leatherleaf, cottongrass, three-way sedge, and bog cranberry.

Reed canary grass treatments studied

by Craig A. Annen, ecologist, Michler & Brown, LLC. This is a summary of his Dec. 17, 2004, presentation to the Army Corps of Engineers.

Can reed canary grass be selectively controlled?

Reed canary grass abatement and subsequent native species restoration are challenging tasks, for many reasons. One reason is a lack of treatments that selectively target reed canary grass with minimal collateral damage to non-target species. This is usually not a problem during the early stages of restoration when reed canary grass is dominant, but can become a problem as the restoration progresses and native species begin to return from the seed bank or active planting.

I have been exploring selective control options for use in transitional areas where reed canary grass is present, but not the dominant species. I began by conducting a feasibility study to determine if Vantage™ (sethoxydim), a grass-specific herbicide, would reduce seed production and above-ground biomass of reed canary grass without harming native species.

Early summer (May 29) sethoxydim application reduced seed head production 98 percent and total seasonal above-ground biomass production 56 percent. A late summer follow-up application (Aug. 2) failed to improve biomass suppression, possibly because the litter that resulted from the initial application intercepted spray during the subsequent application.

Sethoxydim application had no effect on native species abundance, indicating that it may possess a useful level of species selectivity. Herbicidal effects on reed canary grass did not carry over into the second growing season. Reed canary

grass often recolonizes treated areas from its seed bank and rhizomes when treatments are discontinued. As a consequence, maintaining suppression of growth and seed production requires multiple-year herbicide applications.

Why are multiple-year herbicide applications necessary to control reed canary grass?

My next objective was to look at reasons why reed canary grass is able to quickly recolonize treated areas. One reason may have to do with rhizome apical dominance. Apical dominance is the promotion of apical growth with corresponding inhibition of lateral growth, and is caused by interactions among limiting factors and plant hormones. Apical dominance results in both actively growing and dormant rhizome buds in perennial grass stands.

When herbicides are applied to reed canary grass top growth, they move throughout the plant along with carbohydrates. Studies with radioactively labeled herbicides show that both glyphosate and sethoxydim translocate to and accumulate within the apical portions of rhizomes because the apex has greater sink strength for carbohydrate when apical dominance is in place. As a result, lateral rhizome buds are not affected by herbicide applications, and reed canary grass is able to resprout (resurge) from these lateral buds.

Rhizome apical dominance is well documented in the scientific literature, and rhizome bud dormancy has been reported in reed canary grass stands. The end result of resurgence is that multiple-year herbicide applications are necessary to sustain the suppressive effects of chemical treatments and deplete the dormant bud bank.

Can we enhance herbicide effectiveness?

I am currently investigating whether short-circuiting apical dominance will enhance the effectiveness of herbicide treatments. Tillage and plant growth regulator (PGR) applications are known to reduce the effects of apical dominance and promote lateral growth in perennial grass rhizomes. Tillage overcomes apical dominance by decapitating rhizomes and breaking them into isolated fragments. PGRs mimic plant hormones, and “trick” the plant’s molecular signal system into promoting lateral growth. Once dormant lateral buds become active, they are able to receive carbohydrates (and herbicides) from the rhizome assimilate stream.

I want to find out if either tillage or PGR pretreatments followed by herbicide application will suppress reed canary grass to a greater extent than herbicide application alone. In the first field season, PGR pretreatments failed to improve reed canary grass suppression, while coupling tillage (June 2) to sethoxydim application (June 23) reduced reed canary grass stem density 35 percent greater than herbicide application alone, and improved native species richness and abundance.

Craig A. Annen is a practicing restorationist and researcher. Contact him at 608-424-6997 or annen00@aol.com, or write to 228 South Park Street, Belleville, WI 53508.

Thicket! - A Voice for Integrated Weed Management

This newsletter is produced twice a year by the Integrated Weed Management Group, which includes the MDA. For current and past issues, see: www.mda.state.mn.us/ipm/thicket/default.htm

Book tells how to landscape with Minnesota native plants

by Karen Schik

Lynn Steiner has filled a void with a comprehensive and beautifully written book, *Landscaping With Native Plants of Minnesota*. While many books exist on native plant landscaping, most are general and apply to very large regions of the United States. A person interested in landscaping with Minnesota native plants has had to hunt for information from multiple resources.

Steiner's book has a strong ecological basis, providing background information about Minnesota biomes, and emphasizing the importance of referring to natural areas for gardening inspiration and insight. Steiner defines native plants based on *The Vascular Plants of Minnesota*, the accepted reference by Ownbey and Morley. She describes the types of habitats where they grow, their ecological benefits and misconceptions about them. She also warns the reader about plant conservation issues, such as illegally harvested plants and endangered species. She strongly encourages understanding and acceptance of the uniqueness of native plants, and discourages the use of insecticides and other non-ecological practices.

The layout of the book is easy to follow. The first half leads the reader from an overview of native plant communities, to evaluating a garden site, to selecting plants and designing and installing a garden. Sidebars provide tips, including lists of deer-resistant plants, and plants for butterflies, hummingbirds, and specific conditions. An abundance of high quality color photographs beautifully illustrate the text. The second half of the book is devoted to comprehensive descriptions and photographs for 350 species of native flowering plants, grasses, trees, shrubs, evergreens, ferns, and vines.

Overall, I found her plant lists for different conditions to be fairly accurate, though some designations seemed incomplete. Little bluestem, for instance, is listed as a savanna species, and not listed for mesic prairie and dry prairie, when clearly it is a significant species of dry prairies. The lists provide a good basis, but a gardener should consult other reputable lists as well. Given the strong ecological nature of the book, a reference to the presettlement vegetation map created by Marschner would also have been helpful.

Steiner has produced a beautiful book that clearly demonstrates her knowledge and passion for Minnesota native plants. I was, however, disappointed by the author's ready acceptance of non-native cultivars. While I have no issue, per se, with the use of cultivars, the title of the book implies dedication to natives. Novices who don't understand the difference may have little incentive to choose natives over cultivars. Given the facts that less than one percent of native prairie (for example) is left in the state, and that cultivars generally provide less nectar and other wildlife benefits, I would have expected cultivars would be mentioned only as an aside.

Furthermore, she did not explain the importance of local genotype, nor the fact that nursery location does not connote seed source location. This book far exceeds most I have seen in regards to plant community ecology, but in my opinion, it fell short of educating readers about these issues and the uniqueness of Minnesota's natural heritage. The book is not the "one reference" that I had hoped it would be, but it is nonetheless an excellent resource and I would not hesitate to recommend it as a supplemental resource.

Get involved

by Karen Schik

Have you noticed new activities at the Society? Things are happening — more field trips, a new Web site, new opportunities as land stewards at Grey Cloud, more Society-associated events, like the BioBlitz and the State Fair. Are you wondering how you can be a part of all this fun? Scan the list below and let us know what you are interested in. Contact Karen Schik (kschik@fmr.org or 651-433-5254) for more information or to sign up.

Occasional activities — Sign up; we will contact you as the need arises.

- MNPS Booth. Bring the display board to one or more events.
- State Fair. MNPS may again participate at another organization's fair booth. Visit with fairgoers.
- Presentations. Organizations occasionally request presentations on plant-related topics. Let us know if you have a presentation you can give.

Regular Needs — May be only once.

- Field trips. Lead a field trip to your favorite place, solicit others to lead trips, or help organize trips.
- Submit an article to the Plant Press.

Long-term tasks — Firm commitment needed.

- Database manager. Receive and enter new or renewing members, generate mailing labels, etc. The computer (laptop) and program are provided, as well as training.
- Annual symposium. Help plan and organize the 2006 symposium. Planning will start this summer.
- Coordinate the Think Native program, a winter activity. Solicit participants, go through a selection process, and follow up on results.
- MNPS historian. Compile the history of the society to post on the Web site before the Society's 25th anniversary in 2007.
- Postcard mailer: Produce and mail meeting announcements and annual "We want you back" postcards.

Plant Lore

by Thor Kommedahl

What is toothwort?

Toothwort is a common name for *Dentaria laciniata* and *D. diphylla* in the mustard family. Some botanists include *Dentaria* in the genus *Cardamine*. Both species are native to Minnesota.

What do these names mean?

Dentaria refers to the toothed rhizomes of some species, whereas *Cardamine* comes from Dioscorides' Greek name for cress. In fact, toothwort is also called spring cress because it has been eaten as an alternate to watercress (*Nasturtium officinale*).

What does toothwort look like?

Toothwort (*Cardamine diphylla* / *Dentaria diphylla*) is a perennial with a creeping rootstock (rhizome). Leaves are divided into three-toothed leaflets, and the flowers have four petals, usually white or pale pink. Cut-leaved toothwort (*Dentaria laciniata*) also has three leaflets per leaf, but the leaflets are narrower and more sharply toothed; this is called *Cardamine concatenata* by Gleason and Gronquist. Moreover, the petals are pale lavender, and the rhizomes are segmented.

Where do toothworts grow?

Most are found in moist woods or river bottoms and bloom about the time that hepatica, bloodroot, and Dutchman's breeches bloom, that is, in early spring before shade blankets the forest floor.

Are toothworts medicinal or edible?

Toothwort rhizomes have been used as a folk remedy for toothaches, and the American Indians chewed rhizomes for colds. A poltice was made to treat headaches. Menominee Indians piled masses of rhizomes under a blanket for three to four days to induce fermentation to make them sweet, then cooked them with corn. They said this was good to eat and

2005 Think Native Grants

by Dianne Plunkett Latham

Five 2005 Think Native Grant recipients have been approved by the MNPS Board of Directors. If you are near any of the winners, see how the grants are making a difference.

Minneapolis

Anna Dvorak, on behalf of the McKinley Community Garden, in partnership with the Fellowship Missionary Baptist Church and the Camden Garden Club, accepted the \$200 grant to create a rain garden at Cityview School, 3350 Fourth St. N., Minneapolis. Students will help plant and maintain the garden, which is on the border of Perkins Hill Park.

Marshall

Diane Gunvalson, on behalf of the Community Action Partnership in Marshall, accepted the grant of prairie seeds remaining from last fall's MNPS seed exchange. The seeds will be used for the wildflower hill in Independence Park in Marshall. They also received a small grant to purchase native plants from Prairie Restoration, which they put along a path. They hope to create informational markers. They also partnered with the Biology Club and Dr. Desy at Southwest Minnesota State University to collect seeds from the native prairie at the university. They planted the seeds in the university greenhouse for planting on the hillside. The MNPS seed will be germinated in the university greenhouse as well.

Brainerd

Theri Wasniewski, on behalf of Central Lakes College, Brainerd, Minnesota accepted the grant of

also was good medicine for the stomach. Rootstocks are peppery, and when mixed with vinegar and salt are substituted for horseradish, or chopped up are used in salads.

Does it have economic value?

Not really. It is sometimes cultivated in wild or rock gardens.

woodland, wetland and rain garden seeds remaining from the seed exchange. They plan to create a campus woodland garden at the edge of a jack pine savannah on the top of a hill above the Mississippi River. This interpretive garden will highlight native grasses, wildflowers, shrubs and trees. Wasniewski's students will create pamphlets and place them in at the entrance to the Think Native Woodland Garden.

Plymouth

Linda Miller, on behalf of the Gleason Lake Elementary School Outdoor Learning Center (OLC), accepted the grant of prairie plants remaining from the 2005 MNPS plant sale. The school is located at 310 Co. Rd. 101 N., Plymouth. Since 2002, they have been removing invasives and restoring prairie, wetland and woodland habitats. Students help maintain the area; Fortin Consulting provides oversight, burning and herbicide. The PTA hired a naturalist, who takes each classroom out into the OLC for instruction six times a year.

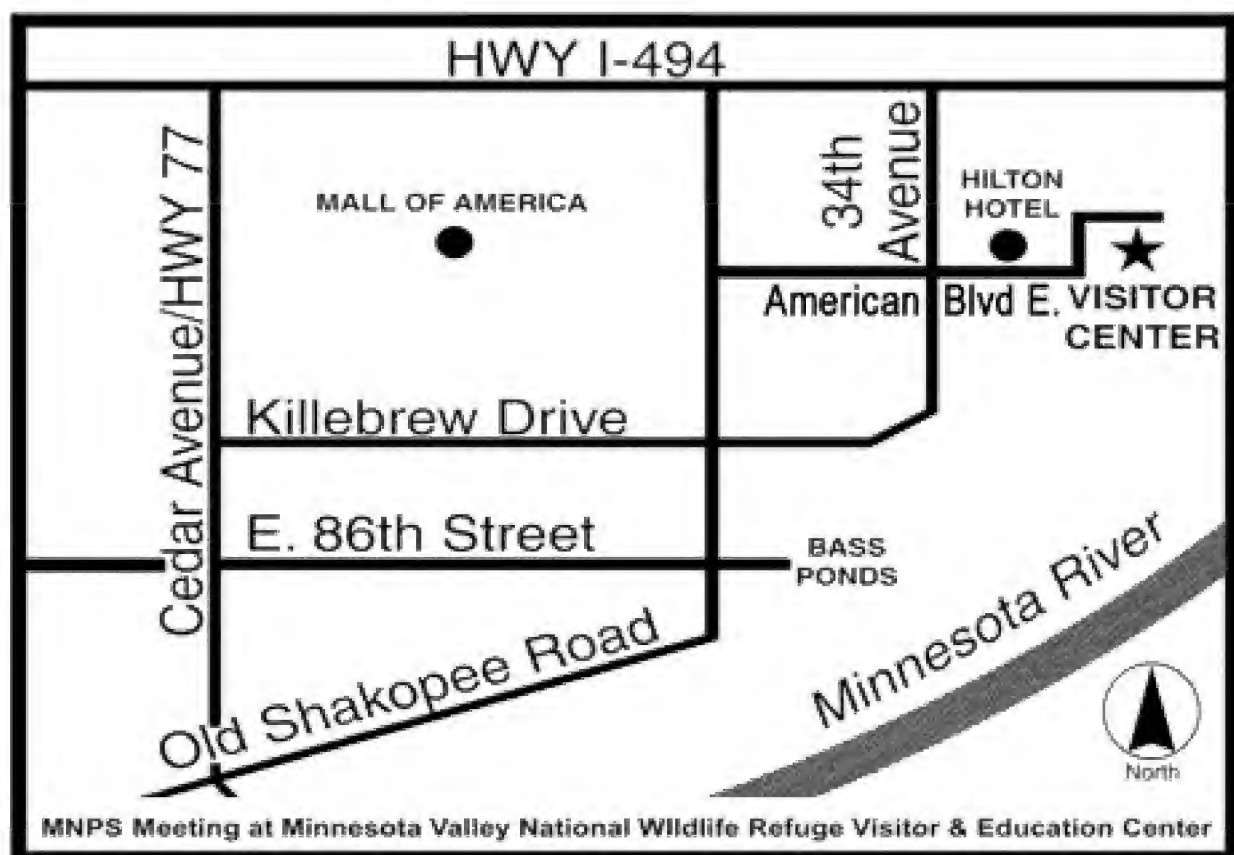
Centerville

Lisa Gilliland, on behalf of the Wargo Nature Center in Centerville, accepted the grant of woodland and wetland plants remaining from the 2005 plant sale. By implementing sustainable native landscapes as a community resource, Wargo is involved in a community-based science project with the Science Museum of Minnesota. Wargo seeks to demonstrate the wide variety of plants that could be used as alternatives to bluegrass lawns. Visitors will see the plants in a semi-native habitat and receive printed information about them. Wargo will have interpretative signs for a bird feeder watch area, a tallgrass prairie, woodland, and a butterfly garden.

The 2005 Think Native Grant Committee consisted of Dianne Plunkett Latham, chair, Dave Crawford and Linda Huhn.

Minnesota Native Plant Society
University of Minnesota
250 Biological Sciences Center
1445 Gortner Ave.
St. Paul, MN 55108

Spring 2005





Minnesota Plant Press

The Minnesota Native Plant Society Newsletter

Volume 24 Number 4

Summer 2005

Monthly meetings

Minnesota Valley National Wildlife Refuge
Visitor Center, 3815 American Blvd. East
Bloomington, MN 55425-1600
952-854-5900

6:30 p.m. — Building east door opens
6:30 p.m. — Refreshments,
information, Room A
7 – 9 p.m. — Program, society business
7:30 p.m. — Building door is locked
9:00 p.m. — Building closes

Programs

The MNPS meets the first Thursday in October, November, December, February, March, April, May, and June. Check the Web site for more program information.

Oct 6: “Managing Woodlands During and After Buckthorn,” by Janet Larson, forester. **Place of the Month:** Meyers’ Prairie, Nicollet County, by Linda Huhn.

Nov. 3: “Plant Communities of the Mississippi River Gorge,” by Karen Schik, ecologist with Friends of the Mississippi River and MNPS board member. **Seed Exchange.**

Collect, package native seeds to exchange Nov. 3

Place native seeds for the exchange in envelopes. Write the name of the plant and the seed source on each envelope. The exchange will follow the meeting.

New MNPS Web site

www.mnnps.org
e-mail: contact@mnnps.org

MNPS Listserve

Send a message that includes the word “subscribe” or “unsubscribe” and your name in the body of the message to: mn-natpl-request@stolaf.edu

Combined attacks by deer, earthworms endangering hardwood forests in state

by Lee E. Frelich, director, University of Minnesota Center for Hardwood Ecology. This is an abstract of his talk at the April 7, 2005, meeting.

European earthworms and deer are having a synergistic impact on woodland plant communities that is cascading through forest ecosystems, causing major changes in soil structure, nutrient availability, loss of native plant species, facilitation of invasive species, and failure of tree regeneration. European earthworms eat the duff in hardwood forests when they invade, exposing the root systems and causing death of a large proportion of woodland plants. The deer-to-plant ratio is then much higher, allowing deer to finish off many of the remaining plants and tree seedlings.

Recovery of the plant community is difficult because the seedbed conditions are changed from duff to mineral soil, the mycorrhizal community is changed, the dusky slug (also a European invader) causes high mortality of newly germinating seedlings, growth of plants is relatively slow due to lesser availability of nutrients, and those plant seedlings that get past these difficulties can then be eaten by deer.

Previous research in the Big Woods by Augustine and Frelich showed that densities of plants must be on the order of 4,000 per acre or more to saturate the deer, and such densities are hard to achieve. A few species of plants, including Pennsylvania sedge and jack-in-the-pulpit, are adapted to the post-invasion conditions. The sedge in particular can become very dense and out-compete other native plant species.

The combination of high deer populations and invasion by European earthworms and slugs

Continued on page 5

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Officers re-elected; some committees changed

Officers were re-elected and chairs and members of several committees were changed at the June 16 MNPS Board of Directors meeting.

Jason Husveth will serve one more year as president, and Scott Milburn will again be vice president. Karen Schik will continue as secretary and will be assisted by Mary Grace Brown. Ron Huber, who recently relieved David Johnson of the treasurer's duties, will continue in that position. David is continuing to manage the membership data base.

Daniel Jones succeeds Karen Schik as chair of the Symposium Committee. Shirley Mah Kooyman, Scott Milburn, and Karen are also on this committee.

Ken Arndt is the new chair of the Field Trip Committee. He will be assisted by Jason Husveth, Scott Milburn and Doug Mensing, the former chair.

Ken Arndt and Dave Crawford will co-chair the plant sale. Other committee members are Daniel Jones

and Gerry Drewry, who resigned as co-chair.

The Think Native Program will be led by Karen Schik, Shirley Mah Kooyman, and Linda Huhn.

Other positions include: Program Chair, Linda Huhn; Seed Exchange, Dave Crawford; Nominations, Scott Milburn, chair, Karen Schik, Shirley Mah Kooyman; New Member Contacts and Newsletter Mailers, Chuck and Ellen Peck; Web site managers, Scott Milburn and Jason Husveth; Listserv manager, Charles Umbanhowar; Newsletter Editor, Gerry Drewry.

A volunteer is needed to send the monthly meeting-notice postcards.

Wild Ones plan annual conference Sept. 9 - 11

The Twin Cities chapter of Wild Ones, will hold its annual conference at Bunker Hills Park Sept. 9 - 11. Joan Nassauer, University of Michigan, will be the keynote speaker. For information, go to www.for-wild.org

MNPS Board of Directors

President: Jason Husveth, Critical Connections Ecological Services Inc., 14758 Ostlund Trail N., Marine on St. Croix, MN; 651-247-0474; jhusveth@ccesinc.com

Vice-President: Scott Milburn, 744 James Ave., St. Paul, MN 55102; 651-261-4381; smilburn@ccesinc.com

Secretary: Karen Schik, 13860 236th St. N., Scandia, MN 55073; 651-433-5254 (h), 651-222-2193 (w); kschik@fmr.org

Treasurer: Ron Huber, 2521 Jones Place W., Bloomington, MN 55431-2837; 952-886-0783; huber033@umn.edu

Ken Arndt, 2577 Co. Rd. F, White Bear Twp., MN 55110; 651-426-8174; karndt@pioneereng.com

Mary G. Brown, 9300 Old Cedar Ave., #119, Bloomington, MN 55425-2426; 651-310-8085 (w), 952-885-0913 (h); MGBROWN@stpaultravelers.com

Daniel Jones, 208 Linden St. S., Northfield, MN 55057-1723; 507-664-9663; dwjonesecoserv@earthlink.net

Shirley Mah Kooyman, 4520 Terraceview Lane N., Plymouth, MN 55446; 952-443-1419 (w), 763-559-3114 (h); shirley@arboretum.umn.edu

Sandy McCartney, 8824 35th St., #5, St. Louis Park, MN 55102; 952-932-0954 (h); sandy2950@hotmail.com

Program Chair: Linda Huhn, 2553 Dupont Ave. S., Minneapolis, MN 55405; 612-374-1435

Listserv Coordinator: Charles Umbanhowar, ceumb@stolaf.edu

Minnesota Plant Press editor: Gerry Drewry, 24090 Northfield Blvd., Hampton, MN 55031; phone, 651-463-8006; fax, 651-463-3135; gdrewry@infionline.net

Technical or membership inquiries: contact@mnnps.org

Minnesota Native Plant Society's purpose

(Abbreviated from the bylaws)

This organization is exclusively organized and operated for educational and scientific purposes, including the following:

1. Conservation of all native plants.
2. Continuing education of all members in the plant sciences.
3. Education of the public regarding environmental protection of plant life.
4. Encouragement of research and publications on plants native to Minnesota.
5. Study of legislation on Minnesota flora, vegetation and ecosystems.
6. Preservation of special plants, plant communities and scientific and natural areas.
7. Cooperation in programs concerned with the ecology of natural resources and scenic features.
8. Fellowship with all persons interested in native plants through meetings, lectures, workshops and field trips.

From the president

With the warm, sunny summer of 2005 upon us, I am pleased to report that the Minnesota Native Plant Society continues to flourish. Our steady growth can be attributed to the hard work and dedication of the board of directors and the active participation of many of our members. The society continues to grow with new members, and we continue to offer informative programs, field trips, and services to our membership. This is no accident. Over the past several months, the board and many members have been very committed to improving the society, developing new ideas, and planning future programs, field trips, and symposia.

At the June board meeting, we said farewell to two members of the board who have gone above and beyond the call of duty over the past three years – Doug Mensing and David Johnson. Among his many contributions to the society, Doug has taken the lead in planning and organizing our many field trips each year, as well as helping to organize the 2004 and 2005 annual symposia. David has served as our treasurer for many years, and has handed the books over to Ron Huber for safekeeping. We thank both Doug and David for their energy, enthusiasm, and adept service to the society!

Sandy McCartney and Mary Brown were both elected to the board this spring and started their terms at the June meeting. Daniel Jones was recently appointed to the board to complete Dianne Plunkett Latham's term, and he has already begun taking the lead on planning the 2006 symposium. We look forward to working with Sandy, Mary, and Daniel, and the new ideas, considerable experience, and fresh perspectives they bring to the board and the society.

The officer elections resulted in several officers continuing on for another year's term. Scott Milburn was re-elected as vice-president, and Karen Schik will continue on as secretary, with assistance from Mary Brown. Ron Huber has graciously accepted the position of treasurer. And I am honored to have the privilege to serve as president for one more year. Linda Huhn continues to plan our monthly meetings, and Ken Arndt has taken the lead role as field trip coordinator.

Most of all, I want to wish all of our members a most enjoyable summer of botanizing and enjoying Minnesota's great outdoors. We welcome your ideas and participation.

Please be sure to visit www.mnnps.org and please feel free to contact the officers, board members, or other key members with your ideas for future society services and programs. I hope to see you at the summer field trips, and at our next membership meeting in October.

*Best regards, Jason Husveth,
president*

Native bottlebrush grass likes dry shade

by Erin Hynes, president of the Ornamental Grass Society of Minnesota. This is an abstract of her presentation at the May 5 meeting.

Native bottlebrush grass (*Elymus hystrix*; *Hystrix patula*) is one of the few ornamental grasses adapted to dry shade. It tolerates wet or dry soil, full shade to partial sun. Although it is reputed to be short lived, it re-seeds, although not invasively. The most notable feature is the bristly flower, after which the grass is named. Bottlebrush grass grows about two feet tall and flowers from June through August. The flowers persist into autumn.

Savanna, bog field trip is Sept. 18

Hannah Texler, Minnesota DNR regional plant ecologist, will lead a fall field trip to the Helen Allison Savanna SNA and Cedar Creek Bog at Bethel in Anoka County from 2 to 5 p.m. Sunday, Sept. 18. To register, contact Doug Mensing at fieldtrips@mnnps.org or 612-202-2252.

Helen Allison Savanna SNA is an 86-acre prairie and oak savanna. It was named for Helen Allison Irvine, "Minnesota's grass lady," who wrote a text on the 180 grasses of Minnesota. This SNA lies within the Anoka sand plain, providing an excellent example of sand dune plant succession, with blowouts and dunes in various stages of stabilization by pioneer species.

Community types found on the site include oak sand savanna, dry prairie with bur oak and pin oak, thickets of willow and aspen, and sedge marshes in scattered depressions. Trees and shrubs include pin oak, bur oak, American hazelnut, chokecherry, willow, and quaking aspen. Other savanna species include lead plant, smooth sumac, slender willow, steeple bush, aster, and goldenrod. Look on the dunes for pioneer sand plants such as sea-beach needle grass and hairy panic grass. Sedge meadows contain tussocks of Hayden's sedge, along with marsh fern and blue-joint grass. Other rare plant species occurring include long-bearded hawkweed, rhombic-petaled evening primrose, and tall nut-rush.

A side trip will take participants on a short boardwalk through the nearby Cedar Creek Bog, which is located at the University of Minnesota Cedar Creek Research Center. This is one of the most interesting bogs in the Anoka sand plain. Common plant species include leatherleaf, cottongrass, three-way sedge, and bog cranberry.

Go Native! by Carolyn Harstad is resource for native gardens

Book Review by Dianne Plunkett Latham

Carolyn Harstad moved to Lakeville, Minn., from Indiana in the fall of 2003 and shortly thereafter joined the MNPS. She is a past president and a founding member of the Indiana Native Plant and Wildflower Society, as well as a founding member of the Indiana Hosta Society.

In addition to authoring *Go Native!*, an exhaustive resource on native plants, she is also the author of *Got Shade?*, which the Dec. 8, 2004, issue of the *Minneapolis Star Tribune* listed as one of eight recommended Christmas gift books for gardeners. *Got Shade?* was also featured as one of the top 10 gardening books in Best of the Year in the February 2005 *Fine Gardening* magazine.

Go Native! is an outstanding resource for the native plant enthusiast. Not only does it tell you why and how to design a native garden for prairie, wetland, woodland or wildlife, it also makes recommendations for vertical and horizontal accents, in addition to recommendations for biohedges and ferns. *Go Native!* has a chapter on exotics, where buckthorn gets the boot, with plenty of information on why and how to remove it. Given that Carolyn is a Master Gardener, a popular garden lecturer, a certified Landscape Design Critic, and a regular contributor to several gardening newsletters, the book contains much practical advice on each species' planting requirements and propagation.

The book contains 125 lovely line drawings by Jeanette Ming. There are also 100 of Carolyn's own gorgeous color photographs, from

which the reader can readily see that Carolyn has an eye for beautiful combinations. It's no accident that she is a flower show judge for the Federated Garden Clubs of Minnesota.

Although the book was published as part of a series on Gardening in the Lower Midwest, nearly all the native plants included in *Go Native!* are fully hardy in Minnesota. The few that are not are at least marginally hardy here. The extensive research, plus entertaining prose and plant lore, make this book a must read for native plant enthusiasts of all levels! Both paperback books retail for \$24.95 and are published by Indiana University Press, 601 N. Morton St., Bloomington, IN 47404. *Go Native!* and *Got Shade?* are available at major bookstores, or can be ordered on-line from Amazon.com or Barnes & Noble. They are also available at the Minnesota Landscape Arboretum.

Grasses studied during workshop

The May 5, 2005, meeting featured an interactive grass identification workshop, which was led by Anita F. Cholewa, Ph.D., curator of temperate plants, J.F. Bell Museum of Natural History, University of Minnesota, St. Paul.

The grass workshop started with a brief introduction to the grass family, consisting of the distinguishing features and major groupings as currently understood. This was followed by a hands-on portion, in which museum specimens of common Minnesota grasses were available for viewing, along with samples of grass flowers.

MNPS members and visitors examined the many samples of

Survey identifies prairie remnants in Mower County

by Paul J. Bockenstedt, a restoration ecologist with Bonestroo and Associates, Inc., and former resource manager for Metro State Parks. This is a summary of his talk at the Feb. 3, 2005, MNPS meeting.

The Lyle-Austin Wildlife Management Area encompasses approximately 114 acres along 9.5 miles of former Chicago Great Western railroad right-of-way on the Iowan Surface landform between the cities of Lyle and Austin in southeast Minnesota.

This area includes a rich history in prairie, landform, and railroads. The intersection of these factors with the apparent influence of the culture of the Chicago Great Western Railroad had a major effect on conserving these important tallgrass prairie remnants.

To better understand the location and quality of prairie remnants and rare plant populations, a review of historical railroad information was conducted, and a botanical survey was completed between 1999 and 2003.

The inventory identified 23 areas of good to very good quality remnant prairie. A total of 324 species of plants were noted, 47 of which are non-natives. Over 150 populations for 10 rare plant species were encountered, including those that are state-listed, or not listed but tracked by the Minnesota Department of Natural Resources Natural Heritage Program. A new state record for sweet coneflower, *Rudbeckia subtomentosa*, was also recorded.

grasses, looking for those with features that matched information sheets Cholewa distributed. The Museum's herbarium website (www.cbs.umn.edu/herbarium/vascularplantpage2.htm) contains a detailed and technical identification guide to Minnesota's grasses.

Mary Brown, Sandy McCartney, and Daniel Jones join MNPS board

The MNPS Board of Directors has three new members. Daniel Jones was appointed in March to serve the final year of Dianne Plunkett Latham's term. Mary Brown and Sandy McCartney were elected by society members for three-year terms that began in June. They succeed Doug Mensing and David Johnson. Jason Husveth, president, was re-elected to the board.

Mary Grace Brown

Mary Brown is a resident of Bloomington. She has volunteered to help monitor and maintain Grey Cloud Dunes and Nine Mile Creek prairie and to be more involved in restoration.

"I am excited to become more involved in the MNPS by serving on the board," she wrote. "I am an ornamental gardener, using some native plants, but am more interested in restoration and seeing plants in the wild than in my garden. Therefore, I am grateful to the leaders who now offer more local field trips. I have been active in my Audubon chapter (which also meets at the refuge), enjoying many birding field trips, organizing two fundraising native plant garden tours that generated \$2,000 profit, and leading spring wildflower field trips. I am looking forward to working with you all."

William H. "Sandy" McCartney, Jr.

Sandy McCartney, a resident of St. Louis Park, received a B.A. in economics and a M.S. in forestry from the University of Minnesota. He has been the tree inspector for St. Louis Park for the past three seasons and went back to work for the city the end of April. He and his wife, Tracy, have a 10-year-old daughter, Susan.

"I grew up in Wayzata, actually Orono, and what is now Wood Rill Scientific and Natural Area was about 12 feet from my bedroom window," he wrote. "I spent many hours in the woods, and that is probably where I learned to love the outdoors. I spent over five years driving over the road, have worked construction, been a telephone operator, and worked for United Parcel Service from 1993 to 2003.

"I was first invited to attend the Minnesota Native Plant Society meetings by Janet Larson, but was unable to attend until I left UPS. Besides my new board position with the society, I am the secretary/treasurer for the College of Natural Resources Alumni Society and also the national board representative from the college to the University of Minnesota Alumni Association."

Daniel Jones

Daniel Jones is a botanist and certified ecologist with a career spent in natural resource inventory and management. He currently works as an environmental scientist for Barr Engineering in Edina. His wife, Karil Kucera, is a professor of East Asian Studies and Art History at St. Olaf College, Northfield.

Daniel has worked in the Midwest and the Pacific Northwest, in both the public and private sectors. His work has included wetland delineation and mitigation design, forest inventories, rare plant surveys and vegetation management plans. He has worked in a wide variety of vegetation types from prairie to forest, and from wetlands to subalpine meadows. He is also a trained mycologist and has conducted fungal surveys, as well as surveys for sensitive moss and lichen species.

Jones started his career in 1984 in the Chicago area and returned to the Midwest two years ago, after 11 years in the Pacific Northwest. He was active with the Washington Native Plant Society, serving as editor of *Douglasia*, the WNPS quarterly journal. He also was WNPS liaison to Earth Share of Washington.

"I am impressed by the talent, knowledge, and passion for native plant stewardship that I see at the MNPS meetings, and I am eager to tap into that passion to help the Society grow," he wrote. Jones hopes to continue promoting MNPS advocacy for conservation of sensitive native plant species and stewardship of native natural communities.

Endangered forests

Continued from page 1

appears to be spreading into the countryside from metropolitan areas. When a Big Woods remnant is surrounded by farms, deer are maintained at relatively low densities. When a few houses are built, however, hunting pressure goes down and deer multiply. If they were not already present, European earthworms, slugs, and invasive plant species such as European buckthorn and garlic mustard also arrive with the first wave of houses.

Native Big Woods plant communities are winking out one by one across the landscape, and a large-scale research and conservation program will be necessary to save these native communities.

Gerry Drewry receives MNPS lifetime honorary membership

by Jason Husveth, president, MNPS

Gerry Drewry was awarded the Minnesota Native Plant Society's Lifetime Honorary Membership Award April 7 at the 2005 annual symposium. Gerry has been a member of the Minnesota Native Plant Society since 1985 (the society was founded in 1982).

She learned about the society from attending the 1985 symposium as a private landowner, interested in learning about the native plants and native habitats of Minnesota, wanting to apply this information to the restoration and management of her land in Hampton (near Northfield), and to help educate others about Minnesota's native flora.

Since her introduction to the society in 1985, Gerry has attended every annual symposium and has contributed her talents and enthusiasm as an active member. Each year, Gerry is a regular attendee of our monthly membership meetings, and has attended many field trips over the past two decades. Gerry also served on the board of directors for two terms, before she became the editor of the society's newsletter, the *Minnesota Plant Press*, and she still attends most quarterly board meetings.

Most impressive are Gerry's considerable volunteer services to the society, which she adeptly provides graciously and quietly behind the

scenes. Gerry has served as the editor of the *Minnesota Plant Press* since 1998 (that's 28 issues), and has done a fantastic job as editor, improving the quality of the newsletter, and ultimately working with the board to facilitate the electronic publication of the *Plant Press* in the past few years.

Gerry has also served as a primary organizer and facilitator of the MNPS annual native plant sale, along with David Crawford. She has served in this role for approximately 10 years. Each year, Gerry informs our members, board, and others about the coming plant sale, plans the details of the event, and oversees the sale at the June meeting. Gerry has given so much of her time and talents to the society, and we are honored to have her as our fourth recipient of the society's lifetime honorary membership award!



Gerry Drewry holds plaque presented by Jason Husveth

Read *Plant Protection Review* on-line

A Minnesota Department of Agriculture publication, *Plant Protection Review*, is an excellent resource that will keep you abreast of insect pests, noxious weeds, and plant diseases, what the department is doing about them, and what you can do. The newsletter merged two previous newsletter publications, the *Overstory* and *Nursery News*, into a single publication. The intent is to provide the green industry, the public, and other interested parties with timely articles and information relating to nursery inspection, export certification, shade tree programs, and invasive species, as well as seed and noxious weeds. The next issue is to be published in July.

The newsletter can be viewed by going to www.mda.state.mn.us To subscribe to the e-mailed version, just send an e-mail addressed to MajorDomo@State.MN.US. In the body of the message, type: Subscribe MDA-Plant-Protection-Review

Plant Lore

by Thor Kommedahl

What is sneezeweed?

Sneezeweed is *Helenium autumnale* (and some other species) in the sunflower family.

How did it get its names?

Legend has it that *Helenium* is named for Helen of Troy, who cried at seeing the lives lost by those who came to rescue her, and where her tears fell, these plants sprang up. “Sneezeweed” comes from the plant used as a snuff. Menominee Indians ground mature flower heads into a powder to sniff for treatment of head colds. The powdered leaves induce sneezing.

What does the plant look like?

This fibrous-rooted, native perennial has yellow ray flowers in which each petal has 3 shallow lobes. The center of the head is spherical and ocher-yellow. The elliptical leaves are punctuated with glands. It grows from two to five feet tall and is often found in clumps.

Where does it grow?

It is widespread in Minnesota, except in the arrowhead region, and grows in open, moist areas, often along streams.

Is it poisonous or medicinal?

Both. Sneezeweed (several *Helenium* spp.) is a major economic problem for sheep raisers; in one year, for example, 8,000 sheep died in Colorado from sneezeweed poisoning. Liver and kidneys are damaged.

The plant produces a lactone, helenalin, which has anti-tumor activity and is being tested by the National Cancer Institute. This lactone also is a powerful insect repellent. Tea made from sneezeweed is used to treat intestinal worms. Sneezeweed may cause contact dermatitis.

Mt. Diablo buckwheat rediscovered

A petite pink flower that hasn’t been seen in 70 years has been rediscovered on the flanks of Mount Diablo in Contra Costa County by a University of California, Berkeley, graduate student.

The Mount Diablo buckwheat, *Eriogonum truncatum*, “has been a Holy Grail in the East Bay for several decades,” according to UC Berkeley botanist Barbara Ertter, who confirmed the identification in the field on May 20. Last reported in 1936, the flower was presumed extinct, she said, because its habitat has been overrun by introduced grasses. It is one of only three plants, all of them rare, that are endemic to Mount Diablo.

Michael Park had the missing buckwheat on his mind May 10, when he hiked to a remote corner of Mount Diablo State Park. Following a different routine from his normal survey, he stumbled across the plants — about 20 in all — in full bloom, looking like pink baby’s breath. Less than eight inches tall, the annuals are inconspicuous and were growing in a balding area between full chaparral and non-native grassland.

The discovery site, a full day’s hike from public trailheads in the park, is being kept secret for now so that admirers won’t flock to the area and inadvertently destroy the rediscovered plant.

Ertter, the curator of western North American flora at UC Berkeley’s Jepson Herbarium, noted that one priority should be to gather seeds and start cultivating the buckwheat at the UC Botanical Garden. Cultivated specimens conserved by the garden,

Has it any horticultural uses?

It has been grown in backs of borders or in wild gardens. Varieties have been developed that thrive in fairly rich soil in sunny locations. It can be propagated by seeds, cuttings, and division.

which is part of the Center for Plant Conservation network, will provide a reserve of seeds in case the species declines further.

“At some point, if we have the mature seeds and can get them started in cultivation so there is a backup, then we can relax a little more,” Ertter said.

Park, 35, began surveying the flora of Mount Diablo three years ago as part of Ertter’s ongoing surveillance of the area’s plants. Now finishing his first year as a graduate student in the Department of Integrative Biology, Park found the buckwheat while completing his survey during a prime time of the year, when plants are flowering profusely after one of the latest and rainiest winters in decades. He divulged his secret to Ertter and alerted the park service.

Two days later, he hiked with two fellow graduate students to take photos, which convinced Ertter he had indeed found the elusive buckwheat. First reported in 1862, there are only seven historical records of the plant, the last in 1936.

Park suspects that the unseasonably late rains may have produced the flowering, since many native plants produce seeds that remain dormant in the soil for decades until the right moisture conditions make them germinate.

Brent Mishler, UC Berkeley professor of integrative biology and director of the Jepson and University Herbaria, noted that this is typical of plants in Mediterranean-type climates like California. “It really demonstrates the importance of continuing floristic and systematic studies across the decades and centuries, the key role of herbaria, and the need to maintain strong educational programs in these areas,” he said.

(The complete article, with photos, can be seen at www.berkeley.edu/news/media/releases/2005/05/24_buckwheat.shtml)

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